GARY R. HERBERT
Governor
SPENCER J. COX
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

September 9, 2016

CERTIFIED RETURN RECEIPT
7013 2250 0000 2310 2729

David McMullin
CS Mining LLC
P. O. Box 608
Milford, Utah 84751

Subject: Conditional Approval of Amended Notice of Intention to Commence Large Mining Operations and Directive to Provide Additional Reclamation Surety, CS Mining LLC, Hidden Treasure Mine, M/001/0067, Beaver County, Utah

Dear Mr. McMullin:

The Division of Oil, Gas and Mining conditionally approves the amended Notice of Intention to Commence Large Mining Operations (Notice) which was received June 30, 2016, in response to the Division's directive. The amendment includes plans for utilizing the existing processing infrastructure as an acid neutralization system for treatment of the acidic Intermediate Tailings Disposal Facility (ITDF) tailings decant solution, as well as solution in the raffinate and PLS ponds and any excess acid. You are now authorized and directed to operate the acid neutralization system as planned in the amendment.

You are hereby directed to do the following:

1) **By September 30, 2016,** address the enclosed comments to provide the Division with updated and more detailed third-party neutralization and evaporation costs and associated information for the ITDF decant solution. Enhanced evaporation costs were omitted. CS Mining's demonstration of partial neutralization over the next several weeks can be used to justify different neutralization cost estimates.
2) **By October 15, 2016,** based on up-to-date reclamation cost estimates, provide the Division with any additional reclamation surety, beyond the existing surety, that may be required to ensure that the Division has sufficient surety to neutralize ITDF decant solutions.

1594 West North Temple, Suite 1210, Salt Lake City, UT 84116
PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR
OIL, GAS & MINING

The additional information is needed because CS Mining's proposed reclamation cost estimate (RCE) relies on significant assumptions in the amendment which are inexact estimates. For example, the amounts of lime kiln dust (LKD) reportedly required for neutralization are from bench-scale laboratory tests, not actual operation of the neutralization circuit.

The Division may independently calculate and approve reclamation costs, and re-allocate the reclamation surety as needed in order to most effectively reclaim the site to meet the requirements of the reclamation plan and rule R647-4, including neutralization and evaporation activities.

The Division will suspend further review of the Notice of Intention until your response to this letter is received. Please contact Peter Brinton at 801-538-5258 or me at 801-538-5261 if you have questions concerning the review. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB: pnb: eb
Attachment: Review comments
cc: Ed Ginouves, BLM (eginouve@blm.gov)
Dan Hall, DWQ (dhall@utah.gov)
Mark Novak, DWQ (mnovak@utah.gov)
Woody Campbell, DWQ (wwcampbell@utah.gov)
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REVIEW OF AMENDED NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

CS Mining LLC
Hidden Treasure Mine

M/001/0067
September 7, 2016

General Comments:

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
		The Division's priority for addressing these review comments is the reclamation cost estimate section and the other comments directly related to that calculation, including a current measure of acidity (not just pH).	pnb	

R647-4-105 - Maps, Drawings & Photographs

105.2 - Surface facilities map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Update the facilities map to identify any changes (e.g. installation of any significant equipment) associated with the neutralization circuit.	pnb	
	Omission	Update the ITDF map to identify the locations of the booster station, other pumps, and the intake and discharge points associated with the neutralization circuit.	pnb	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Neutralization Circuit Flow Sheet	Identify the position of pumps within the neutralization circuit flow sheet.	pnb	
	Neutralization Circuit Flow Sheet	Indicate the portions of this neutralization circuit flow sheet that represent activities only occurring during the active operation of copper production facilities (vs. neutralization during inactivity).	pnb	

R647-4-106 - Operation Plan

106.2 - Type of operations - mining method, onsite processing, deleterious or acid-forming materials

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Page 3	Provide an analysis identifying a current, useful measure of acidity (mg $CaCO_3$ /L) or the molar strength of the current tailings decant pond water in the ITDF.	pnb	
	Page 4	Identify the pump types (e.g. model, horsepower, stainless steel, etc) for both the slurry/tailings and the return water line.	pnb	
	Page 4	Identify whether the LKD slaking process in Leach Tank 3 is operated as a batch process or continuously (with constant feed of lime to the circuit). Report the residence time of LKD in the tank and the flow rate of LKD to the tank and ITDF.	pnb	
	Page 4	Explain any treatment efforts (or their lack) to minimize scaling in tanks and pipes.	pnb	
	Omission	Provide explanation for the amount of LKD per cubic yard of stored acid, raffinate, and decantate that are shown in the neutralization line items of the reclamation cost estimate.	pnb	
	Omission	Identify whether the sludge precipitated from the LKD and ITDF decant water is possibly deleterious (e.g. heavy metals).	pnb	

106.3 - Estimated acreages disturbed, reclaimed, annually/sequentially

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Report any expansion (or lack thereof) of acreage associated with the neutralization and evaporation activities.	pnb	

106.4 - Nature of materials mined or processed (including waste materials), and estimated annual tonnages

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Page 3, Table	Identify the starting pH of the "Untreated" water in the table.	pnb	
	Omission	Identify and briefly discuss the nature of the LKD (pH, lime content, iron and trace metals concentrations, etc). This information may be provided as Graymont documentation, or through analytical testing.	pnb	
	Omission	Identify and briefly discuss the nature of the sludge resulting from treatment (pH, lime content, metals concentrations, physical characteristics, etc).	pnb	
	Omission	Provide the Division with analyses of ITDF decant solutions both before and after treatment.	pnb	

106.9 - Location & size of ore and waste piles, tailings, ponds

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Identify the approximate current volume and acreage of the ITDF decant solution.	pnb	

106.10 - Amounts of material

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Identify the amount of LKD needed to neutralize acidic solutions.	pnb	

R647-4-109 - Impact Assessment

109.1 – Projected impacts to surface & groundwater systems

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Identify the projected impacts (or lack thereof) and any mitigation to surface and groundwater systems associated with: 1) placement of acid solutions in the ITDF in the past, 2) placement of future tailings in the ITDF with the neutralization circuit in operation, 3) neutralization of the current acidic solutions in the ITDF decant pond, and 4) evaporation of the ITDF decant pond.	pnb	

109.2 – Potential impacts to threatened & endangered wildlife/habitat

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Identify the potential impacts (or lack thereof) and any mitigation to threatened and endangered species or their critical habitats associated with: 1) placement of acid solutions in the ITDF in the past, 2) placement of future tailings in the ITDF with the neutralization circuit in operation, 3) neutralization of the current acidic solutions in the ITDF decant pond, and 4) evaporation of the ITDF decant pond.	pnb	

109.3 – Projected impacts on existing soils resources

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Identify the projected impacts (or lack thereof) and any mitigation to soil resources associated with: 1) placement of acid solutions in the ITDF in the past, 2) placement of future tailings in the ITDF with the neutralization circuit in operation, 3) neutralization of the current acidic solutions in the ITDF decant pond, and 4) evaporation of the ITDF decant pond.	pnb	

109.4 – Projected impacts on slope stability, erosion control, air quality, public health and safety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Identify the projected impacts (or lack thereof) and any mitigation on slope stability, erosion control, air quality, and public health and safety associated with: 1) placement of acid solutions in the ITDF in the past, 2) placement of future tailings in the ITDF with the neutralization circuit in operation, 3) neutralization of the current acidic solutions in the ITDF decant pond, and 4) evaporation of the ITDF decant pond.	pnb	

R647-4-110 - Reclamation Plan

110.2 – Reclamation of roads, highwalls, slopes, impoundments, drainages, pits, piles, shafts, adits, etc

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Identify any portions of the reclamation plan (e.g. ITDF) that will be impacted (or not) by neutralization activities, and related changes to the plan (e.g. any changes to the ITDF cover, timing, etc).	pnb	

110.4 - Description or treatment/location/disposition of deleterious or acid forming materials, including map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Omission	Discuss the disposal methods of any deleterious associated with the neutralization materials (e.g. acidic tailings, sludge from treatment, crud from tanks, etc).	pnb	

R647-4-113 – Surety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
	Earthwork, Mill Facilities	Correct the amount per cubic yard of LKD required for neutralization of the remaining acid and raffinate.	pnb	
	Earthwork, ITDF	Correct the labor rate to include one foreman and one laborer, which is the number of individuals needed to operate the neutralization system.	pnb	
	Earthwork, ITDF	Update the ITDF operation cost line items to reflect the nature of the neutralization circuit as either batch or continuous, including any impacts to costs associated with the operation time and mixing tank residence time.	pnb	
	Omission	Provide costs for the enhanced evaporation of the treated ITDF decant water.	pnb	